

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A method for decoding data, said method comprising iterations with some steps (SISO1, SISO2) using ~~windows (WID)~~ of input data, characterized in that the method comprises, for a current window  $[(WID)]$  of a step (SISO1, SISO2) within an iteration the steps of:

Performing a forward recursion, wherein said forward recursion is initialized with a forward state metric vector ( $\alpha$ ) from  $[(the)]$  an upper stake  $[(STK)]$  of a previous window of  $[(the)]$  a same step (SISO1, SISO2) of a previous iteration,  $[(a)]$  each window  $[(WID)]$  comprising a lower and  $[(an)]$  said upper stake  $[(STK)]$ , wherein the lower stake comprises a lower metric vector initialization value independent of time and the upper stake comprises an upper metric vector initialization value independent of time; and

Performing a backward recursion, wherein said backward recursion is initialized with a backward state metric vector ( $\beta$ ) from the lower stake  $[(STK)]$  of a next window of the same step (SISO1, SISO2) of a previous iteration.

2. (currently amended) A method as claimed in claim 1, characterized in that the forward state metric vector ( $\alpha$ ) computed last is stored in an upper stake of said current window  $[(WID)]$  during the forward recursion, and the backward state metric vector ( $\beta$ ) computed last is stored in the lower stake  $[(STK)]$  of said current window  $[(WID)]$  during the backward recursion.

3. (currently amended) A method as claimed in claim 1, characterized in that all the windows of a step (SISO) are processed in parallel.

4. (currently amended) A decoder for decoding data, said decoding comprising iterations with some steps (SISO1, SISO2) using windows of input data, characterized in that it comprises computation units for performing, for a current window of a step (SISO1, SISO2) within an iteration:

A forward recursion, wherein said forward recursion is initialized with a forward state metric vector ( $\alpha$ ) from an upper stake of a previous window of a same step (SISO1, SISO2) of a previous iteration, each window comprising a lower and said upper stake wherein the lower stake comprises a lower metric vector initialization value independent of time and the upper stake comprises an upper metric vector initialization value independent of time; and

A backward recursion, wherein said backward recursion is initialized with a backward state metric vector ( $\beta$ ) from the lower stake of a next window of the same step (SISO1, SISO2) of a previous iteration.

5. (original) A receiver adapted to receive input data, said input data being processed by the decoder as claimed in claim 4.

6. (original) A computer program product for a receiver, comprising a set of instructions which, when loaded into said receiver, causes the receiver to carry out the method as claimed in claims 1 to 3.

7. (original) A computer program product for a computer, comprising a set of instructions which, when loaded into said computer, causes the computer to carry out the method as claimed in claims 1 to 3.
8. (previously presented) A decoder for decoding data, as claimed in claim 4, said decoding characterized in that the forward state metric vector ( $\alpha$ ) computed last is stored in an upper stake of said current window during the forward recursion, and the backward state metric vector ( $\beta$ ) computed last is stored in the lower stake of said current window during the backward recursion.
9. (previously presented) A decoder for decoding data, as claimed in claim 4, said decoding characterized in that all the windows of a step are processed in parallel.
10. (previously presented) A method as claimed in claim 1, characterized in that the backward recursion is initialized with a metrics vector computed by a termination generator, wherein the metric vector is a function of tail bits, and is processed.
11. (previously presented) A decoder for decoding data, as claimed in claim 4, said decoding characterized in that the backward recursion is initialized with a metrics vector computed by a termination generator, wherein the metric vector is a function of tail bits, and is processed.